

IN THE CLAIMS:

Please amend claims 5, 8-10, 12, 13, 15-17, and 19 as shown below, in which deleted terms are shown with strikethrough and added terms are shown with underscoring.

1. (Original) A fatigue safety factor testing apparatus comprising:
  - a FEM calculating section which carries out a FEM calculation to meshes of a part to calculate a stress of each of said meshes of said part;
  - a normalized stress calculating section which calculates a normalized stress of a stress applied to each of said meshes with respect to a fatigue limit as a function of a temperature and material of each of said meshes; and
  - a fatigue safety factor calculating section which calculates a fatigue safety factor of each of said meshes based on a normalized fatigue limit obtained by normalizing said fatigue limit and said normalized stress.
2. (Original) The fatigue safety factor testing apparatus according to claim 1, wherein said normalized stress and said normalized fatigue limit are independent from the temperature and material of each of said meshes of said part.
3. (Original) The fatigue safety factor testing apparatus according to claim 1, wherein said normalized stress and said normalized fatigue limit are independent from the temperature of each of said meshes of said part.
4. (Original) The fatigue safety factor testing apparatus according to claim 1, further comprising:
  - a function table which stores a conversion function as a function of the temperature and the material, and
  - wherein said normalized stress calculating section refers to said function table based on the material of each of said meshes of said part to acquire said conversion function, and normalizes said stress applied to each of said meshes of said part using said conversion function.

5. (Currently amended) The fatigue safety factor testing apparatus according to claim 4, further comprising:

a stress data table which ~~has~~ stores said fatigue limit as a function of the material and the temperature; and

a conversion function generating section which generates said conversion function based on said fatigue limit for ~~every~~ multiple temperatures, and stores the generated conversion function in said function table.

6. (Original) The fatigue safety factor testing apparatus according to claim 5, wherein said conversion function generating section generates said normalized fatigue limit in addition to said conversion function and stores said normalized fatigue limit in said stress data table in relation to said material, and

wherein said fatigue safety factor calculating section refers to said stress data table based on a material of each of said meshes of said part to acquire said normalized fatigue limit.

7. (Original) The fatigue safety factor testing apparatus according to claim 1, further comprising:

a display section which displays each of said meshes of said part in a color corresponding to said fatigue safety factor.

8. (Currently amended) A fatigue safety factor testing apparatus comprising:

a normalized stress calculating section which normalizes a stress applied to a part using a conversion function for converting a fatigue limit for every temperature of said part and for every material of said part into a normalized fatigue limit which does not depend on the temperature and outputs as a normalized stress; and

a fatigue safety factor calculating section which calculates a fatigue safety factor of said part based on said normalized fatigue limit and said normalized stress.

9. (Currently amended) The fatigue safety factor testing apparatus according to claim 8, further comprising:
- a function table which stores said conversion function, and
  - wherein said normalized stress calculating section refers to said function table based on a material of each of ~~said~~ a plurality of meshes of said part to acquire said conversion function.
10. (Currently amended) The fatigue safety factor testing apparatus according to claim 9, further comprising:
- a stress data table which ~~has~~ stores said fatigue limit for ~~every~~ multiple temperatures and ~~for said~~ every material of said part;
  - a conversion function generating section which generates said conversion function based on said fatigue limit for ~~every~~ each of said temperatures and ~~for said~~ every material of said part, and stores the generated conversion function in said function table.
11. (Original) The fatigue safety factor testing apparatus according to claims 8, wherein said stress is at least one of mean stress and amplitude stress applied to said part, and said fatigue limit shows a permissible mean stress and a permissive amplitude stress.
12. (Currently amended) A method of testing a fatigue safety factor comprising the steps of:
- (a) acquiring a stress applied to each of meshes of a part;
  - (b) normalizing said stress using a conversion function for converting fatigue limit for a material of each of meshes of a part and for ~~every~~ multiple temperatures into a normalized fatigue limit which does not depend on the temperature; and
  - (c) calculating ~~said~~ a fatigue safety factor of each of said meshes of said part based on said normalized fatigue limit obtained by normalizing said fatigue limit using said conversion function and said normalized stress.

13. (Currently amended) The method of testing a fatigue safety factor according to claim 12, further comprising the step of:

(d) determining said conversion function through the normalization of said fatigue limit;

14. (Original) The method of testing a fatigue safety factor according to claims 12, wherein said stress is at least one of mean stress and amplitude stress applied to said part, and said fatigue limit shows a permissible mean stress and a permissive amplitude stress.

15. (Currently amended) The method of testing a fatigue safety factor according to claim 12, further comprising the step of:

displaying each of said meshes of said part in a color corresponding to said fatigue safety factor.

16. (Currently amended) A software product executed by a computer and recording codes of a method comprising:

(a) acquiring a stress applied to each of meshes of a part;

(b) normalizing said stress using a conversion function for converting fatigue limit for a material of each of meshes of a part and for ~~every~~ multiple temperatures into a normalized fatigue limit which does not depend on the temperature; and

(c) calculating ~~said a~~ fatigue safety factor of each of said meshes of said part based on said normalized fatigue limit obtained by normalizing said fatigue limit using said conversion function and said normalized stress.

17. (Currently amended) The software product according to claim 16, wherein said method further comprises the step of:

(d) determining said conversion function through the normalization of said fatigue limit;

18. (Original) The software product according to claims 16, wherein said stress is at least one of mean stress and amplitude stress applied to said part, and said fatigue limit shows a permissible mean stress and a permissive amplitude stress.

19. (Currently amended) The software product according to claim 16, wherein said method further comprises the step of:  
displaying each of said meshes of said part in a color corresponding to said fatigue safety factor.